

TECHNICAL REPORT

Health Promotion and Prevention Initiatives (HPPI) Program Sexually transmitted infection (STI) risk reduction and prevention initiatives

1. Purpose. This report summarizes Health Promotion and Prevention Initiatives (HPPI) Program funding and outcomes for sexually transmitted infection (STI) risk reduction and prevention projects. This summary includes only HPPI-funded initiatives; other US Army Center for Health Promotion and Preventive Medicine (USACHPPM), US Army Medical Department (AMEDD), or Department of Defense (DoD) efforts related to STI risk reduction and prevention are not discussed.

2. Background.

a. Risk factors. Several recognized demographic, geographic, behavioral, and situational factors common to military members facilitate acquisition, maintenance, and transmission of STIs and make military personnel a high risk group for these infections.

1) Age. Half of STI cases in the United States occur in individuals under the age of 25. According to FY04 Population Representation in the Military Services data, 47% of Army enlisted personnel and 11% of Army officers are under the age of 25. The recruit population subset reflects even higher percentages of Soldiers in this at-risk age group: 92% of new enlisted and 50% of new officers are under the age of 25. In addition to age as a risk factor, these new recruits will face many challenges in an unfamiliar military culture and environment which may increase their risk for STIs.

2) Barriers to care. Young Soldiers may be also more vulnerable to STIs because of lack of routine health care before recruitment; concerns about stigma and confidentiality in seeking care either before or after in-processing into the military; and limited overall experience with STI prevention and clinical services.

3) Condom use. Unprotected sexual encounters increase the risk for STIs. According to the 2002 Survey of Health Related Behaviors among Military Personnel, approximately 60% of unmarried Active Duty Service Members did not wear a condom the last time they had sexual relations, which was well below the Healthy People 2010 benchmark of 50% or greater condom usage.

4) Substance abuse patterns. Substance abuse is a reliable predictor of risky sexual behavior, including failure to use condoms. Standardized comparisons of military and civilian substance abuse in the 2002 Survey of Health Related Behaviors indicate that military personnel aged 18 to 25 were significantly more likely than their civilian counterparts to engage in heavy drinking (27% compared to 15%) and binge drinking (42% compared to 17%).

5) Frequent travel. Military personnel have increased exposure to STI agents when they

are stationed, deployed, and travel otherwise throughout the world. Diverse populations in other locations may have endemic STI rates much higher than in the United States. In addition, Soldiers may face increased risk for STIs because of separation from normal social support systems during travel and deployment.

b. Consequences.

1) Consequences of sexual risk taking for the individual Soldier may include career, family, and/or relationship consequences; long-term financial consequences; embarrassment; and pain and suffering. Health consequences differ based on gender. These consequences can include infertility, chronic pain, immune suppression, pelvic inflammatory disease, ectopic pregnancy, neurological and joint disorders, and cervical cancer.

2) Force readiness is also impacted by STIs. The adverse impacts include lost duty days, early separations from service, direct and indirect medical costs, and an erosion of image.

c. Prevalence.

1) Reportable events. The diagnoses of chlamydial infection and gonorrhea represent a significant proportion of all reportable event diagnoses at US Army medical treatment facilities among Active Component personnel. A summary of reportable event diagnoses for the years 2001 through 2005 is shown in Table 1.

Table 1. Reportable events at US Army medical treatment facilities among active component personnel, 2001 - 2005					
	2001	2002	2003	2004	2005
Chlamydial infection	6271	7245	5440	5680	5911
Gonorrhea	1807	2053	1287	1292	1430
All reportable events combined	9915	10837	8534	8649	8866
% of diagnoses: Chlamydial infection + Gonorrhea	81%	86%	78%	81%	83%

2) Comparison to US rates. The 2003 rates of chlamydial infection and gonorrhea reported in Army Medical Surveillance Activity through the Army Reportable Medical Event System (RMES) were significantly higher than the US rates reported through the Centers for Disease Control (CDC), as shown in Table 2.

Table 2. Comparison of military and civilian rates for chlamydial infection and gonorrhea		
	Chlamydial infection	Gonorrhea
RMES rate (military)	818*	143*
US rate (CDC)	304*	116*
<i>*rates are cases per 100,000</i>		

d. Health care burden. In the United States, approximately 18.9 million STIs occur annually, causing a conservatively estimated financial burden of \$17 billion each year. According to 2005 Medical Surveillance Monthly Report (MSMR) data, STIs affected 19,352 individuals among US Armed Forces, resulting in 25,489 medical encounters and 765 hospital bed-days. The MSMR Table of Morbidity Burdens also reported 29,113 and 35,279 medical encounters as a result of STIs in 2003 and 2001, respectively.

3. Nationally recognized prevention strategies.

a. Intervention content. Education programs should increase prevention knowledge, reduce high risk factors, and build decision-making and communication skills in order to reduce risky sexual behaviors and alcohol consumption. To maximize effectiveness, STI education programs should be interactive, targeted to the risk behaviors of the individual, and delivered by instructors educated on the topic.

b. Methods. Three major methods are used to deliver STI risk reduction and prevention interventions: *feedback* interventions provide monitoring and evaluation of behavior (without a prior education component); *information* interventions provide an information basis for behavior change; *modeling* interventions provide exposure to desired behaviors.

c. Focus. Interventions may be individual or community focused. Individual-focused interventions provide knowledge or attempt to change beliefs, attitudes, and perceived behavior norms. Community-focused interventions attempt to modify social norms, influence social networking and resources, and decrease barriers to preventive practice in the community.

d. Prevention strategy effectiveness. Research indicates that the most effective STI risk reduction and prevention interventions include interactive counseling. Information-only sessions do not seem to affect behavioral change as much as interactive sessions.

4. HPPI Program impact.

a. Program purpose. The HPPI Program uses a competitive process to fund unique and innovative projects that demonstrate potential as best approaches to health promotion and preventive medicine in the US Army. These best approaches are recommended for proliferation across the Army or targeted toward specific Military Health Care System populations. The purpose of the HPPI Program is to enhance force readiness through health promotion.

b. Program oversight. Since FY97, USACHPPM has developed, refined, and managed HPPI initiatives for the AMEDD, with funds made available from the Office of the Assistant Secretary of Defense for Health Affairs (OASD HA).

c. Funding summary. The HPPI Program has provided funding eight times for STI risk reduction and prevention projects. Six different projects have received total HPPI funding of \$278,000 since FY97; two of these projects received HPPI funding for more than one year.

5. Findings and discussion.

a. Curriculum. HPPI projects have used a variety of curricula, including the Navy Environmental Health Center (NEHC) Sexual Health and Responsibility Program (SHARP), other pre-existing resources (such as those available from CDC), and materials developed at the local installation.

b. Group size. The number of Soldiers in class sessions has varied in HPPI projects between ten and several hundred. Anecdotal evidence indicates that smaller class sizes are more effective than large group briefings. Project implementers report that more interaction occurs and more questions are asked in smaller group sessions than in larger briefings.

c. Format. Project implementers use a combination of briefing slides, visual aids, handouts, group discussion, and role playing within class sessions. All HPPI projects have included an interactive health communication component; at a minimum, a question-and-answer session was included in the education sessions.

d. Leadership support. Local installation leadership is frequently the driving force for initiating risk reduction and STI prevention campaigns. Additional evidence of leadership support can be inferred from frequent requests to USACHPPM for STI risk reduction and prevention intervention curricula and other program resources.

e. Multi-faceted approach. Preliminary analysis of HPPI projects indicates that a multi-faceted approach to STI risk reduction and prevention has the best affect on behavior. Projects which combine education, discussion, community awareness, counseling opportunities, and outreach seem to be most successful.

f. Surveillance and outcomes measurement. Local installation data has been used to target specific populations for intervention based on the prevalence of STIs. Outcomes measurements used by HPPI projects include: local installation prevalence of reported and treated STIs; referrals to Army Public Health Nursing; numbers of Soldiers attending education classes; self-report pre- and post-intervention knowledge and attitudes surveys; and analysis of AHLTA data to determine incidence of new diagnoses.

g. Outreach. Face-to-face interactions with Soldiers at installation exits provide STI risk reduction and prevention information at an important decision-making point (i.e., as Soldiers are planning their evening activities). Although new to a military environment, street outreach is a proven public health strategy for STI risk reduction and prevention.

h. Other unique program elements. Other effective STI risk reduction and prevention interventions include free condom dispensers at the Charge of Quarters (CQ) desks; special events planned in connection with related health observances (such as World AIDS Day); and small, informal, interactive sessions scheduled during lunch.

6. Questions for further study. HPPI-funded STI risk reduction and prevention projects have provided valuable information regarding potential best practices and effective prevention strategies. However, further study is clearly needed to gather more information in the following areas:

a. Critical success factors. Although the literature clearly documents critical risk reduction and STI prevention program components for other targeted groups, limited evidence exists regarding which program components are most effectiveness for a military audience. More

information is needed to determine the most critical program success factors for this specific population.

b. STI scope and impact. Other than HIV, there is no current, concise summary of the incidence, prevalence, or related health care burden of STIs in the Army. Clearer understanding of STI scope and impact is needed to more effectively address the health problem.

c. Effective curriculum. It is unknown whether tailored interventions are more effective than a “one size fits all” approach to risk reduction and STI prevention. It is also unknown whether interventions should be tailored to target group STI incidence rates or to other identified risk factors present within the target group. The impact of leadership-tailored education on risk-taking behaviors among Soldiers is a third unknown.

d. Surveillance and outcomes measures. Additional measures of STI risk reduction and prevention program effectiveness are needed. Factors that complicate adequate surveillance and outcome measurement include the mobile nature of the Army population, the asymptomatic nature of many STIs, and lag times between infection and detection. In addition, standardized behavioral variables and valid and reliable behavioral assessments for STI risk reduction and prevention are needed.

9. References.

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